I claim:

1. A surgical apparatus for providing oscillating, high speed burring of tissue comprising:

a handpiece;

an oscillating burr;

an elongate arthroscopic catheter connected to and extending distally from the handpiece and terminating in a flexible or hinged variably curved portion which itself terminates with the oscillating burr;

a flexible drive shaft assembly coupled to the burr;

a motive source connected via the drive shaft assembly to the burr, which drive shaft assembly is axially disposed in the catheter; at least the distal portion of the drive shaft assembly being radially flexible to accommodate the flexibility of the flexible or hinged portion of the catheter.

2. The apparatus of claim 1 where the oscillating burr oscillates at a rate effective for cutting or abrading bone.

3. The apparatus of claim 1 where the oscillating burr oscillates at a rate of 5 kHz or higher.

4. The apparatus of claim 1 where the oscillating burr oscillates over a majority portion of a full circle.

5. The apparatus of claim 1 where the burr is unshielded and fully exposed in the operational theater, so that access to the burr is substantially unimpeded, so that cutting in virtually all directions is possible, so that cooling and clearing by fluid irrigation and fluid, and so that debris removal by suction can be performed without hindrance.

6. The apparatus of claim 1 where the burr cuts or abrades bone or hard matter, while leaving softer tissues substantially or entirely undamaged.

7. The apparatus of claim 1 further comprising a driving hub, a driven hub and a resilient spring coupled to the driven hub, the driving hub and driven hub being frictionally engagable with each other for a fraction of a revolution, and where the drive shaft assembly is connected to the burr through the driven hub.

8. The apparatus of claim 1 where the motive source is a source of rotary motion and the burr is oscillated by the drive shaft assembly, which converts the rotary motion into an oscillating motion.

9. The apparatus of claim 8 where the drive shaft assembly comprises a rotating driving shaft connected to the motive source, a rotationally fixed torsional spring, and a driven shaft frictionally coupled to the driving shaft and coupled the fixed to the torsional spring.

10. The apparatus of claim 9 where the driving shaft and the driven shaft are frictionally coupled by means of frictional engagement with each other in an overlapping portions are telescopically disposed into or over each other.

11. The apparatus of claim 8 where the drive shaft assembly comprises a segmental gear-pulley combination with a belt.

12. The apparatus of claim 8 where the drive shaft assembly comprises an eccentric pin – crank combination.

13. The apparatus of claim 8 where the drive shaft assembly comprises a bilobed counter-rotating gear combination.

14. A method of oscillating, a high speed surgical burr comprising:

providing a motive source;

connecting the motive source via a drive shaft assembly to the burr; and

oscillating the burr at a oscillatory rate effective for cutting or abrading bone over a portion of a full circle so that the burr cuts or abrades bone or hard matter, while leaving softer tissues substantially or entirely undamaged.

15. The method of claim 14 where oscillating the burr over a portion of a full circle oscillates the burr over a majority portion of a full circle.

16. The method of claim 14 where the oscillatory rate effective for cutting or abrading bone is at 10 kHz or higher.

17. The method of claim 14 further comprising providing a burr which is unshielded and fully exposed in the operational theater, and cutting with the burr virtually all directions without substantial impediment.

18. The method of claim 14 further comprising providing a burr which is unshielded and fully exposed in the operational theater, cooling and clearing the burr by fluid irrigation and fluid, and removing debris by suction without hindrance.

19. The method of claim 14 further comprising coupling the drive shaft assembly to the burr by a resiliently biased slip clutch.

20. The method of claim 14 where the motive source is a source of rotary motion and further comprising oscillating the burr by means of the drive shaft assembly, which converts the rotary motion into an oscillating motion.

21. The method of claim 20 further comprising rotating the driving shaft of the drive shaft assembly which driving shaft is connected to the motive source, partially rotating a driven shaft of the drive shaft assembly in a first sense of rotation by means of frictional coupling of the driven shaft to the driving shaft, and partially rotating the driven

shaft in a second sense of rotation opposite to the first sense of rotation by means of a rotationally fixed torsional spring coupled to the driven shaft, so that the driven shaft oscillates as the driving shaft rotates.

22. The method of claim 20 where oscillating the burr by means of the drive shaft assembly comprises frictionally coupling the driving shaft and the driven shaft by means of frictional engagement with each other in an overlapping portion telescopically disposed into or over each other.

23. The method of claim 20 where oscillating the burr by means of the drive shaft assembly comprises oscillating the burr by means of a segmental gear-pulley combination with a belt.

24. The method of claim 20 where oscillating the burr by means of the drive shaft assembly comprises oscillating the burr by means of an eccentric pin – crank combination.

25. The method of claim 20 where oscillating the burr by means of the drive shaft assembly comprises oscillating the burr by means of a bilobed counter-rotating gear combination.

26. A method of oscillating, a high speed surgical burr comprising:

providing a motive source;

connecting the motive source via a drive shaft assembly to the burr; and

oscillating the burr at a oscillatory rate at 10 kHz or higher over a majority portion of a full circle so that the burr cuts or abrades bone or hard matter, while leaving softer tissues substantially or entirely undamaged with a burr which is unshielded and fully exposed in the operational theater, which is capable cutting with the burr virtually all directions without substantial impediment, which is cooled and cleared by fluid irrigation and fluid, and from which debris is removed by suction without hindrance.